

REMARKS

This is in response to the Office Action mailed on September 20, 2005, and the references cited therewith.

Claims 1, 7, 12-13, 19, and 22 are amended; as a result, claims 1-29 are now pending in this application.

§102 Rejection of the Claims

Claims 7, 10, 19 and 21 were rejected under 35 USC § 102(b) as being anticipated by “Application Constraints in the Design of an Automatic Reading Device for Analog Display Instruments,” by Robert Sablatnig et al., hereinafter called Sablatnig. It is of course fundamental that in order to sustain an anticipation rejection that each and every step or element in the rejected claims must be taught or suggested in the cited reference.

With respect to the rejection of amended independent claim 7, Sablatnig does not teach or suggest feature vectors, where each feature vector is a collection of three or more pixel coordinates. In Sablatnig, a technique associated with resolving a type of image and then using a variety of techniques based on the image’s shape to determine its orientation. Some of these techniques are highly complex. Applicants’ technique samples three coordinate points or more within an image to acquire a feature vector; this is a more processing efficient approach and less memory intensive. Sablatnig does not teach sampling an image for coordinate points to acquire feature vectors. Accordingly, Sablatnig fails to teach each and every limitation of Applicants’ amended independent claim 7 and the rejections with respect to claims 7 and 10 should be withdrawn.

With respect to the rejection of amended independent claim 19, Sablatnig fails to teach rules that sample reading indicators for three pixel coordinates that map to values. That is, the techniques used in Sablatnig do not use three pixel coordinates, rather there is a complex set of algorithms, where each different algorithm is dependent upon a shape of an image, which is used in Sablatnig to resolve instrument readings. Similar to what was discussed above, the approach in Sablatnig is more memory and processor intensive than the approach used by the Applicants. Thus, Sablatnig fails to teach each and every limitation of Applicants’ amended independent

claim 19; accordingly, the rejections with respect to claims 19 and 21 are no longer appropriate and should be withdrawn. Applicants respectfully request an indication of the same.

§103 Rejection of the Claims

Claim 11 was rejected under 35 USC § 103(a) as being unpatentable over Sablatnig as applied to claim 10 above, and further in view of U.S. Patent 6,092,008. Claim 11 is dependent from amendment claim 7, thus for the amendments and remarks presented herein with respect to claim 7, the rejections with respect to claim 11 should be withdrawn.

Claims 12, 22-25 and 29 were rejected under 35 USC § 103(a) as being unpatentable over Sablatnig and further in view of U.S. Patent 4,408,342 (Grabowski et al., hereinafter called Grabowski). To sustain an obviousness rejection, each and every element in the rejected claims must be taught or suggested in the proposed combination of references.

First, Applicants would like to point out that the templates used in Grabowski are limited to templates that match numeric or alphanumeric characters. This makes sense because Grabowski is directed to optical character recognition. The templates include white areas, blackened areas, and areas where it is irrelevant whether there is white or blackened information. See, Grabowski, col. 6, lines 13-21. Templates do not include rules data, they include only areas that are filled in or not filled in and are matched to characters appearing in an image.

Conversely, and as amended now in claims 12 and 22, recite a template that includes rules that assist in resolving values or features for images. This makes the template more dynamic and flexible than any static template provided for a character image as presented in Grabowski. It is also noted that amended claim 22 now recites a feature vector that includes three coordinate points selected from the sub image, and as was discussed above Sablatnig fails to teach or suggest such a technique.

Therefore, the proposed combination of Sablatnig and Grabowski fails to teach each and every limitation positively recited in Applicants' amended independent claims 12 and 22. Thus, the rejections of claims 12, 22-25, and 29 should be withdrawn and Applicants respectfully request an indication of the same.

Claim 26 was rejected under 35 USC § 103(a) as being unpatentable over Sablatnig and Grabowski, and further in view of U.S. Patent 5,438,329 (Gastouniotis et al., hereinafter called Gastouniotis). Claim 26 is dependent from amendment independent claim 22, thus for the amendments and remarks presented herein with respect to claim 22, the rejections of claim 26 should be withdrawn.

Claim 20 was rejected under 35 USC § 103(a) as being unpatentable over Sablatnig and Gastouniotis. Claim 20 is dependent from amended independent claim 19, therefore for the amendments and remarks presented herein with respect to claim 19, the rejections of claim 20 should be withdrawn.

Claim 27 was rejected under 35 USC § 103(a) as being unpatentable over Sablatnig and Grabowski as applied to claim 22 above, and further in view of Bateman. Claim 27 is dependent from amended independent claim 22, thus for the amendments and remarks presented herein with respect to claim 22, the rejections of claim 27 should be withdrawn.

Claim 28 was rejected under 35 USC § 103(a) as being unpatentable over Sablatnig and Grabowski as applied to claim 22 above, and further in view of the article "Automation of Reading Liquid-in-Glass Thermometers," by Batagelj et al. (hereinafter called Batagelj). Claim 28 is dependent from amended independent claim 22, thus for the amendments and remarks presented herein with respect to claim 22, the rejections of claim 28 should be withdrawn.

Claims 8 and 9 were rejected under 35 USC § 103(a) as being unpatentable over Sablatnig as applied to claim 7 above, and further in view of Batagelj. Claims 8 and 9 are dependent from amended independent claim 7, therefore for the amendments and remarks presented herein with respect to claim 7, the rejections of claims 8 and 9 should be withdrawn.

Claims 1 and 2 were rejected under 35 USC § 103(a) as being unpatentable over Sablatnig, The Image Processing Handbook by Russ (hereinafter called Russ), and U.S. Patent 5,528,698 (Kamei et al. hereinafter called Kamei). Again, to sustain an obviousness rejection

each and every element in the rejected claims must be taught or suggested in the proposed combination of references.

Here, Sablatnig fails to teach a feature vector that is represented as a collection of three pixel coordinate points. In fact, Sablatnig does not teach feature vectors at all as was discussed above; rather, in Sablatnig a type of image is identified and then a complex algorithm is used to determine an orientation of that identified image. Sablatnig fails to teach or suggest any feature vector and especially lacks any suggest whatever of a feature vector that is represented by a collection of three pixel coordinate points.

Thus, the proposed combination fails to teach each and every element of amended claim 1. Correspondingly, Applicants respectfully request that the rejection with respect to claims 1 and 2 be withdrawn.

Claims 3-6 were rejected under 35 USC § 103(a) as being unpatentable over Sablatnig, Russ, and Kamei as applied to claims 1 and 2, and further in view of Gastouniotis. Claims 3-6 are dependent from amended independent claim 1, therefore, for the amendments and remarks presented herein with respect to claim 1, the rejections of claims 3-6 should be withdrawn.

Claims 13 and 14 were rejected under 35 USC § 103(a) as being unpatentable over Grabowski, and further in view of Digital Image Processing by Kenneth Castleman (hereinafter called Castleman). An obviousness rejection may only be maintained if the proposed combination of references teaches or suggests each and every element in the rejected claims.

Again, claim 13 is amended to reflect that a feature recognition vector is represented as a value selected from three pixel coordinates. There is no such concept taught or suggested in the proposed combination of references.

Accordingly, the proposed combination fails to teach each and every limitation of amended independent claim 13. Therefore, Applicants respectfully request that the rejections with respect to claims 13 and 14 be withdrawn and these claims allowed.

Claims 15-18 were rejected under 35 USC § 103(a) as being unpatentable over Grabowski and Castleman as applied to claim 14 above, and further in view of Sablatnig.

Claims 15-18 are dependent from amended independent claim 13, thus for the amendments and remarks presented herein with respect to claim 13, the rejections of claims 15-18 should be withdrawn.

Conclusion

Applicants respectfully submit that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney at (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

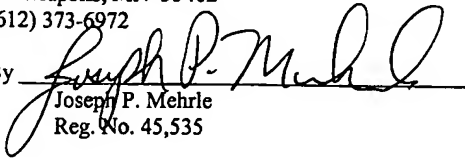
MICHAEL JOHNSON ET AL.

By their Representatives,

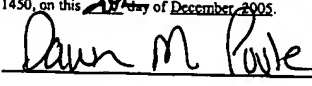
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6972

Date 12-20-05

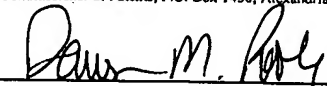
By


Joseph P. Mehrle
Reg. No. 45,535

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 20 day of December, 2005.


Dawn M. Poole

Name


Dawn M. Poole

Signature

IN THE DRAWINGS

The drawings were objected to because item 405 in figure 4 does not correspond with the description in the specification (attribute rules, p. 15, line 18). Instead, this item appears to be a duplication of item 403. Also, the specification refers to the template as item 405 instead of item 400 (p. 15, line 19).

Corrected drawings are supplied herewith.

The correction to the template being referred to as 405 instead of 400 was done by way of amendment to the specification in the following section. All other corrections were achieved within the replacement figures supplied herewith. Therefore, these objections are no longer appropriate and should be withdrawn.